WHAT IS CLAIMED IS:

1   1.   A method of designing a semiconductor device, the method

2   comprising:

3   maintaining a circuit design parameter file for a

4   circuit being designed, the circuit design parameter file

5   specifying a physical characteristic of the circuit;

6   monitoring a design environment to detect the

7   addition of a circuitry component to the circuit;

8   accessing a component design parameter file that

9   specifies at least one design parameter for that added

10   circuitry component; and

11   updating the circuit design parameter file based on

12   the at least one design parameter included in the

13   component design parameter file.

1   2.   The method of claim 1 further comprising providing the

2   circuit designer with feedback concerning the physical

3   characteristic of the circuit being designed.

1   3.   The method of claim 1 further comprising allowing the

2   circuit designer to request feedback concerning the physical

3   characteristic of the circuit being designed.

1   4.   The method of claim 3 further comprising providing the

2   circuit designer with feedback concerning the physical

3   characteristic of the circuit being designed in response to

4   the circuit designer requesting the same.

4

1   5.   The method of claim 1 wherein the physical characteristic

2   is the total silicon area required to construct the circuit

3   being designed, and the at least one design parameter is the

4   silicon area required to construct the added circuitry

5   component.

4

1   5.   The method of claim 5 wherein said updating the circuit

2   design parameter file includes recalculating the total silicon

3   area required to construct the circuit being designed so that

4   it includes the silicon area required to construct the added

5   circuitry component.

6

1   7.   The method of claim 1 wherein the physical characteristic

2   is the total number of gates required to construct the circuit

3   being designed, and the at least one design parameter is the

4   number of gates required to construct the added circuitry

5   component.

7

1   8.   The method of claim 7 wherein said updating the circuit

2   design parameter file includes recalculating the total number

3   of gates required to construct the circuit being designed so

4   that it includes the number of gates required to construct the

5   added circuitry component.

8

1   9.   The method of claim 1 wherein the physical characteristic

2   is the total number of transistors required to construct the

3   circuit being designed, and the at least one design parameter

4   is the number of transistors required to construct the added

5   circuitry component.

1   9. 10. The method of claim 9 8 wherein said updating the circuit

2   design parameter file includes recalculating the total number

3   of transistors required to construct the circuit being

4   designed so that it includes the number of transistors

5   required to construct the added circuitry component.

1   10. 11. The method of claim 1 wherein the physical characteristic

2   is the total number of cells required to construct the circuit

3   being designed, and the at least one design parameter is the

4   number of cells required to construct the added circuitry

5   component.

1   11. 12. The method of claim 11 10 wherein said updating the circuit

2   design parameter file includes recalculating the total number

3   of cells required to construct the circuit being designed so

4   that it includes the number of cells required to construct the

5   added circuitry component.

1   12. 13. The method of claim 1 wherein the physical characteristic

2   is the total amount of power required to power the circuit

3   ...being designed, and the at least one design parameter is the

4   amount of power required to power the added circuitry

5   component.

14. The method of claim 13 wherein said updating the circuit

design parameter file includes recalculating the total amount

of power required to power the circuit being designed so that

it includes the amount of power required to power the added

circuitry component.

15. The method of claim 1 further comprising monitoring a

design environment to detect the deletion of a circuitry

component from the circuit being designed.

16. The method of claim 15 further comprising accessing a

component design parameter file that specifies at least one

design parameter for that deleted circuitry component.

17. The method of claim 16 further comprising updating the

circuit design parameter file based on the at least one design

parameter included in the component design parameter file for

that deleted circuitry component.

18. An estimation process for designing a semiconductor

device comprising:

    a parameter file maintenance process for maintaining

    a circuit design parameter file for a circuit being

    designed, the circuit design parameter file specifying a

    physical characteristic of said circuit;

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7   a design space monitoring process for monitoring a

8 design environment to detect the addition of a circuitry

9 component to said circuit;

10   a component file access process for accessing a

11 component design parameter file that specifies at least

12 one design parameter for said added circuitry component;

13 and

14   a parameter file updating process for updating said

15 circuit design parameter file based on said at least one

16 design parameter included in said component design

17 parameter file.

1 19. The process of claim 18 further comprising a feedback

2 display process for providing the circuit designer with

3 feedback concerning said physical characteristic of said

4 circuit being designed.

1 20. The process of claim 18 further comprising a feedback

2 request process for allowing the circuit designer to request

3 feedback concerning said physical characteristic of said

4 circuit being designed.

1 21. The process of claim 20 further comprising a feedback

2 display process for providing the circuit designer with

3 feedback concerning said physical characteristic of said

4 circuit being designed in response to the circuit designer

5 requesting the same.

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22. The process of claim 18 wherein said physical

characteristic is the total silicon area required to construct

said circuit being designed, and said at least one design

parameter is the silicon area required to construct said added

circuitry component.

23. The process of claim 22 wherein said parameter file

updating process includes an area recalculation process for

recalculating the total silicon area required to construct

said circuit being designed so that it includes the silicon

area required to construct said added circuitry component.

24. The process of claim 18 wherein said physical

characteristic is the total number of gates required to

construct said circuit being designed, and said at least one

design parameter is the number of gates required to construct

said added circuitry component.

25. The process of claim 24 wherein said parameter file

updating process includes a gate recalculation process for

recalculating the total number of gates required to construct

said circuit being designed so that it includes the number of

gates required to construct said added circuitry component.

26. The process of claim 18 wherein said physical

characteristic is the total number of transistors required to

construct said circuit being designed, and said at least one

4   design parameter is the number of transistors required to

5   construct said added circuitry component.

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1   27. The process of claim 26 wherein said parameter file

2   updating process includes a transistor recalculation process

3   for recalculating the total number of transistors required to

4   construct said circuit being designed so that it includes the

5   number of transistors required to construct said added

6   circuitry component.

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1   28. The process of claim 18 wherein said physical

2   characteristic is the total number of cells required to

3   construct said circuit being designed, and said at least one

4   design parameter is the number of cells required to construct

5   said added circuitry component.

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1   29. The process of claim 28 wherein said parameter file

2   updating process includes a cell recalculation process for

3   recalculating the total number of cells required to construct

4   said circuit being designed so that it includes the number of

5   cells required to construct said added circuitry component.

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1   30. The process of claim 18 wherein said physical

2   characteristic is the total amount of power required to power

3   said circuit being designed, and said at least one design

4   parameter is the amount of power required to power said added

5   circuitry component.

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1   31. The process of claim 30 wherein said parameter file

2   updating process includes a power recalculation process for

3   recalculating the total amount of power required to power said

4   circuit being designed so that it includes the amount of power

5   required to power said added circuitry component.

1   32. The process of claim 18 wherein said design space

2   monitoring process is configured to monitor a design

3   environment to detect the deletion of a circuitry component

4   from the circuit being designed.

1   33. The process of claim 32 wherein said component file

2   access process is configured to access said component design

3   parameter file that specifies at least one design parameter

4   for said deleted circuitry component.

1   34. The process of claim 33 wherein said parameter file

2   updating process is configured to update said circuit design

3   parameter file based on said at least one design parameter

4   included in said component design parameter file for said

5   deleted circuitry component.

1   35. A computer program product residing on a computer

2   readable medium having a plurality of instructions stored

3   thereon which, when executed by the processor, cause that

4   processor to:

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5   maintain a circuit design parameter file for a

6   circuit being designed by a circuit designer, wherein the

7   circuit design parameter file specifies a physical

8   characteristic of the circuit;

9   monitor a design environment to detect the addition

10   of a circuitry component to the circuit;

11   access a component design parameter file that

12   specifies at least one design parameter for that added

13   circuitry component; and

14   update the circuit design parameter file based on

15   the at least one design parameter included in the

16   component design parameter file.

1   36. The computer program product of claim 35 wherein said

2   computer readable medium is a hard disk drive.

1   37. A processor and memory configured to:

2   maintain a circuit design parameter file for a

3   circuit being designed by a circuit designer, wherein the

4   circuit design parameter file specifies a physical

5   characteristic of the circuit;

6   monitor a design environment to detect the addition

7   of a circuitry component to the circuit;

8   access a component design parameter file that

9   specifies at least one design parameter for that added

10   circuitry component; and

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11   update the circuit design parameter file based on

12 the at least one design parameter included in the

13 component design parameter file.

1   38. The processor and memory of claim 37 wherein said

2   processor and memory are incorporated into a personal

3   computer.

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